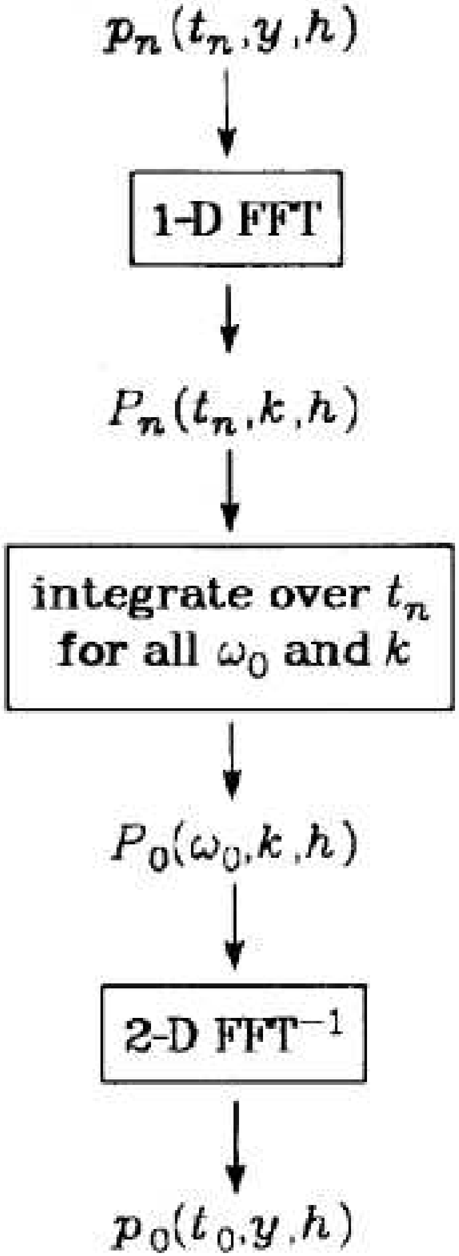

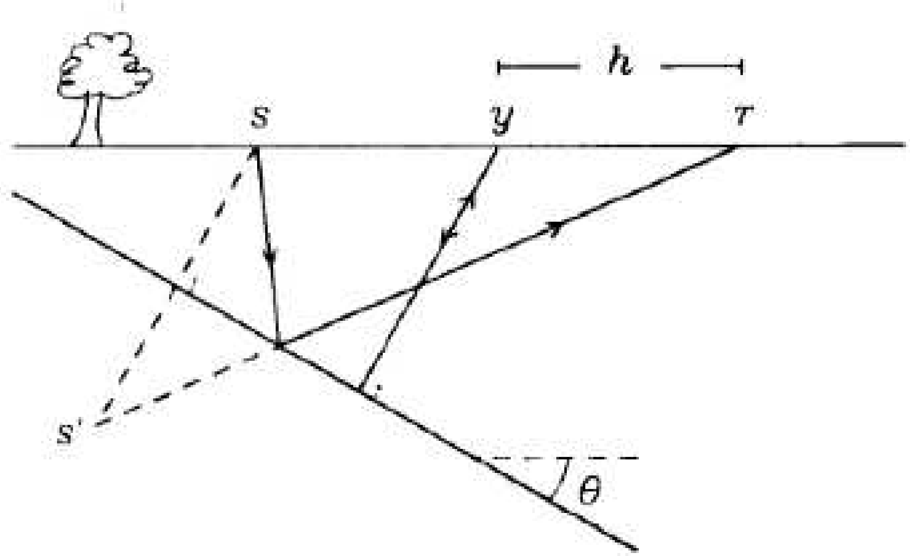

FIG. 1. The seismic experiment, conducted over a simplified subsurface with one dipping reflector. Applying the law of cosines to triangle $s'sr$, one may express the travel time t from source s to receiver r in terms of zero-offset time t_0, half-offset h, velocity v, and dip θ. The result is equation (3) in the text, the

Defining

$$A \equiv \frac{dt_n}{dt_0} = \frac{t_0}{t_n} = \left[1 + \left(\frac{\Delta t_0}{\Delta y}\right)^2 \frac{h^2}{t_n^2}\right]^{1/2},$$

and using equation (10) to replace $p_0(\sqrt{t_n^2 + (\Delta t_0/\Delta y)^2 h^2}, y, h) = p_n(t_n, y, h)$, the Fourier transform becomes

$$P_0(\omega_0, k, h) = \int dt_n\, A^{-1}\, e^{i\omega_0 t_n A} \int dy\, e^{-iky} p_n(t_n, y, h). \qquad \text{(12a)}$$